

**KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**STRATEGIES ADDRESSING PAYMENT DELAYS IN CONSTRUCTION**

**INDUSTRY (GHANA)**

**BY**

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**(BSc. QUANTITY SURVEYING AND CONSTRUCTION ECONOMICS)**

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**MASTER OF SCIENCE IN CONSTRUCTION MANAGEMENT**

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## DECLARATION AND CERTIFICATION

I hereby declare that this submission is my own work towards the M.Sc Construction Management and that, to the best of my knowledge, it contains no material previously published by another person nor material which has been accepted for the award of any other degree of the University, except where due acknowledgment has been made in the text.

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## ABSTRACT

In Ghana, construction is said to be one of the major contributors to the economy, and payment, becomes the central focus for both the contractor and the client. It is for this reason that understanding the subject of payments becomes crucial to both of them. Delayed payments causes severe cash flow problems especially to contractors resulting in the lock up of capital that is supplied from the company's cash reserved or loans with high interest rate and also result in high rate of unemployment as a result of many construction contractors going on liquidation or bankruptcy. This study sought to identify the effects, existing strategies and explore innovative strategies to mitigate the effects of delayed payments. Deductive approach was used where literature was reviewed and Questionnaires developed to cover the objective of the study. Contractors with any class, Consultants and Experts were used as the population used for the population size. The research revealed thirteen (13) effects of delayed payment on contractors' performance. Also thirteen (13) strategies currently in use by contractors were also discovered. The effects and strategies were found out to be significant after a ranking of their mean scores. Finally, ten (10) innovative strategies that can be adopted to eliminate delayed payment to contractors for government contracts were also proposed. It is strongly believed that the findings and recommendations from this study shall help mitigate the effects of delayed payment.

## DEDICATION

To my wife, Beatric Gawugah (Mrs) with much love, and to my parents Mr,Albert Gawugah and Mad.Elisbert Sedoame.

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## CHAPTER ONE

### GENERAL INTRODUCTION

#### 1.1 Background to the study

Construction Industry may be one of the major backbones sustaining the Ghanaian economy since it employs people from all walks of life ranging from educated, average educated and non-educated. Amankwa (2003) revealed that in 2002 the construction industry employed about 2.3% of the economically active population of the country. It contributes an average of 8.5% to the Gross Domestic Product (GDP) of Ghana (Ghana Statistical Service, 2007). Its socio-economic importance is wider. A well-managed and successfully delivered construction projects improve public services (health, education and transport), business productivity, (offices, communications and retail) housing, cultural and public spaces. Fugar and Agyakwa-Baah (2010) ranked delayed payments as the number one causes of project delay in Ghana. A survey conducted by Ayudhya (2012) indicated that owner financial problems, delay in work approval, major accidents, inaccurate bill of quantities and substandard workmanship were common factors in causing delayed payments to the main contractor.

In Construction contracts, the contractors' cardinal obligation is to execute and complete the works in accordance with the drawings and specifications whiles that of the employer is to pay the contractor for the works which have been completed to the satisfaction of the supervising agents or consultants. Once the two parties enter into a contract, their respective focus becomes parallel with the contractors', hoping and working towards making as much money as possible from the client whiles the employer hopes to get the most work for least payment possible. To a very large extent, payment becomes the central focus for both of them. It is for this reason that understanding the subject of payments becomes crucial to the contractor, the employer also known as the client and the design team or the consultants.

It is an undeniable fact that many government construction projects have either been abandoned, become standstill or moving at a very slow pace as a result of the many hindrances in payment process that contractors, consultants and the respective government institutions encounter. Although some of the causes of these hindrances are well known, they are hardly talked about. Stake holders in construction are often left to wonder if it is the contractor who fails to go by the payment process stipulated in a particular condition of contract with respect to the preparation of valuation for payment or they are simply not able to prepare their valuations on time. Also, it is sometimes wondered whether it is the consultants who have a lot of projects on their desk, thereby making the preparation of the payment certificate prolonged. Others attribute these delays to the government or employer (client) because of lack of funds to complete the projects. A practical example is that contractors executing projects on schools under tree project intervention by the Ghana Education Trust Fund (GETFund) decided to take Ghana government to Court because they worked and submitted certificates for payment for over one year but government could not honour payments.

The long and bureaucratic nature of issuing payment certificate is considered by the clients, consultants and contractors as one cause of the delay in payment. This system of making payment certificate receive approval from various levels within the government institutions before payment can be effected came about in order to curb the rising corruption that was immersing into the construction industry. In so doing valuations will be properly scrutinized by these institutions to ascertain and confirm that work has actually been done but this has turned out to be a nightmare for building contractors as valuations take a longer time for approval to be given and payment effected. For instance, many construction contractors handling government projects are delayed payment after several valuations has been forwarded to the consultants. Some reasons associated with these delays are, either the consultants are yet to move to site to verify work done by the contractors or the client (government) have expended

beyond the budget allocation and is waiting for funds from other avenues to complete the project. These contribute to the long process involved in honouring payment certificate.

## **1.2 Problem statement**

Investment in a constructed facility represents a cost in the short term that may return benefits only over the long term use of the facility. Thus, costs occur earlier than the benefits, and owners of facilities must obtain the capital resources to finance the costs of construction. A project cannot proceed without adequate financing, and the cost of providing adequate financing can be quite large. For these reasons, attention to project finance is an important aspect of project management. Finance is also a concern to the other organizations involved in a project such as the general contractor and material suppliers. Unless an owner immediately and completely covers the costs incurred by each participant, these organizations face financing problems of their own. The bureaucratic process involved in honouring certificate causes many problems to the contractors, the beneficiary body and the government itself. Payment issues in the construction industry are considered as a matter of great significance to all stake holders in the building industry. Each year the construction industry experiences a substantial number of bankruptcies related to delayed payments.

Delayed payments may cause severe cash flow problems especially to contractors resulting in the lock up of capital that is supplied from the company's cash reserved or loans with high interest rate and also result in high rate of unemployment as a result of many construction contractors going on liquidation or bankruptcy which will intend result in the government not being able to meet the infrastructural needs of the inhabitants. Delayed payments in road works may also result in accidents on the roads since drivers will try to avoid potholes. It may also generate dust on the roads and houses along the road and even beyond. Health problems may also be another effect on delayed payments to contractors.



Delays in the payment of jobs completed had brought intense pressure on contractors from their creditors mainly the banks. Their workers are also suffering unduly since they cannot find money to pay their wages. If the situation allowed to persist could become a major disincentive and put off many from contractors accepting government contracts (Ghana news agency, 2014).

Though there are numerous measures stated in the various conditions of contract to recover payment such as reducing the rate of work, suspension of work, payment of interest on value of work done should payment delay, fluctuation clause to cover inflation and using arbitration among others, contractors still face persistent problem of delay in honouring payment certificate. These problems which may either be from any of the stake holders may arise as a result of the long and bureaucratic process involved in honouring certificate and the attitude of public officers towards work. Others also associate these problems with the contractors' lack of knowledge about the valuation process and the lack of adequate funds as a result of variations and fluctuations. Hence, it become necessary to explore the innovative strategies for addressing payment delays.

### **1.3 Aim of the study**

This study is aimed at suggesting innovative strategies that can be used to mitigate the effects of delayed payments in construction industry in Ghana.

### **1.4 Objectives of the study**

To help achieve the above aim, the following objectives have been outlined:

1. To identify the effects of delayed payments on Contractors.
2. To identify strategies currently used by Contractors to deal with the delayed payments.
3. To explore innovative strategies that can be used to mitigate the effects of delayed payments in construction industry in Ghana.



## **1.5 Research questions**

This study will be guided by the following basic questions that are relevant to the area of the research.

1. What are the effects of the delayed payment on contractors?
2. What strategies do Contractors use to deal with delayed payments?
3. What innovative strategies could be used to mitigate the effects of delayed payment in the Construction industry in Ghana?

## **1.6 Significance of the Study**

Most research conducted in most countries worldwide and particularly in Ghana investigate into the various reasons for the delays in the building project and conclude that, difficulties in honouring payment certificate is the most predominant factors resulting in those delays. Fugar and Agyakwah-Baah (2010) confirm this accession by ranking delays in honouring payment certificate as the number one cause of delay in project. Notwithstanding this discovering, only few have taken the pain to research into the various reasons for the delays or difficulties involved in prompt payment after payment certificates have been submitted.. The main purpose of this study is to bring to the light, the major impediment mitigating against the prompt payment and recommend innovative strategies to overcome them.

## **1.6 Scope of the Study**

For the purpose of this study, the research was limited to Government projects within the Central Region and was limited to the three stakeholders in the construction industry comprising of the client (government), the consultant and building contractors irrespective of the various classes, D1K1 to D4K4 awarded by the Works and Housing Department, in order for the researcher to be able to receive accurate response from the respondents. However, the researcher also focused on few experts in the construction industry such as such Head of Regional Ghana Highway Authority, Architectural & Engineering Services Limited (AESL) and among others in the Central Region were also contacted to source information.

## **1.7 Organisation of the study**

The study was organised into five chapters. Chapter one deals with the introduction of the study. It includes the background to the study, statement of the problem, objectives of the study and the research questions. It also considers the significance of the study and scope of the study. Chapter two covers review of related literature to the study. This includes conceptual frame work, Courses and effects of delayed payments in the Construction industry. Chapter three focuses on methodology of the study. It covers research design, population, sample and sampling techniques used for the study. It also describes the instrument used, pilot-testing as well as the procedure for the collection of the data and analysis of the data. Chapter four presents data analysis and discussion of research findings. Finally, Chapter five covers the summary of findings, conclusion drawn from the findings, recommendation made and suggestions for further research.



## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

Capital is the major constraints to increasing indigenous Ghanaian economy (Mordenghana, 2003), and finance is the life blood of every organization, i.e. having less blood leads to anemia in human being, similarly paucity of finance leads to decrease in activities or shelving of future

expansion plans of every organization and may even lead to failure of the organization (Agim, 2005). However, delayed payment for work done, has been identified as the number one cause of project delay in Ghana (Fugar, 2010) resulting in financial cash flow problem not only to the Construction company alone, but to all other stake holders of the project. Ofori-Yaboah, (2001) explained that the cost of construction has much to do with payment and payment processes. It is in the light of the foregoing reason that the researcher chose to review as many literature as possible relating to the delay in paying contract Certificates, in a view of making recommendation for a lasting solution to the problem.

## **2.2 Delayed Payments**

In the event that the Interim Payment Certificate (IPC) is not paid within the contractual stipulated time, then delay is said to have occurred and the contractor is entitled to receive interest on the total amount that was delayed in payment (Donkor, 2011). However,,“Sanders and Eagles (2001)“” defined delay as an event that causes extended time to complete all or part of a project. Again, Fugar, and Agyakwa-Baah (2010) defined delay as the time overrun, either beyond the date for completion specified by the contract or beyond the extended contract period where an extension of time has not been granted. Siti and Rashid (2010) defined late payment as the failure by the Employer to pay the Contractor within the time stated in the Contract. It was further explained that non-payment occurs when the Contractor is not being paid at all for his work.

Meanwhile, delayed payment as used in contract can be said to be delay in releasing funds for payment certificate certified by the Consultant which is due to the Contractor beyond permissible days of delay in the contract.

## **2.3 Causes of Delayed Payment**

Fugar and Agyakwa-Baah (2010) ranked delay in payment as the number one cause of project delay in Ghana. A survey by Ayudhya (2012) also indicated that owner financial problems,

delay in work approval, major accidents, inaccurate bill of quantities and substandard workmanship were common factors in causing delayed payment to main contractor. A lot more of payment delays however may be due to insufficient budgetary allocation, diversion of funds meant for the project, and or loss of interest in the project and reluctant to pay for work done. Delay in disbursement of fund from the central government to the public institutions may also cause delayed payment since many public institutions' major source of income rely on the central government for fund for development.

„District Assembly Common fund newsletter (2014)“ explained that one of the biggest challenges is the delays in the disbursement of the fund. Under the 1992 constitution, which created the common fund, allocations to the fund must be paid quarterly (in arrears) during the year. However, disbursement of the fund is characterised by long delays. This is obviously a major drawback on the development efforts of the Assemblies as most of the Metropolitan, Municipal and District (MMDA's) rely on the District Assemblies Common Fund (DAF) for their development projects and delivery of many programmes and services.

## **2.4 Effects of Delayed Payment**

If a payee does not receive full payment of the amount due, and there has been no effective notice given to state that monies were being withheld, then the payee has the right to suspend the performance of their obligations under the contract with the payer (Ramus, 2006).

Delays in honouring payment certificates by GOG results in additional cost in terms of interest payment, increase in cost of capital to the contractor and delay in completion of projects, which subsequently leads to loss of revenue generation from tolls, projects etc. (Ezekiel 2011). Delay payment has numerous other impacts on the project and all the stakeholders. Therefore, arrangement must be put in place to ensure a smooth cash flow throughout the life of the project. Any hitch to such an arrangement could spell a disaster, not only for the Contractor but also to the owner and the project itself as confirmed by (Siti and Rashid 2010).



A failure of the Contractor getting regular and timely payment could result in project delay, reduced profitability and in the extreme case, the company may go into liquidation (Siti and Rashid 2010). It will also have a knocking effect on the whole of construction business chain because the Contractor will not be able to pay his banks, his sub-Contractors, suppliers, hirers and workers on time thus causing everyone to suffer (Siti and Rashid, 2010).

Ghana news agency (2014). Also states that delays in the payment of jobs completed had brought intense pressure on contractors from their creditors mainly the banks. Their workers are also suffering unduly since they cannot find money to pay their wages. If the situation allowed to persist could become a major disincentive and put off many from contractors accepting government contracts. A wise contractor who does not depend on one contract for survival will rather resort to contract determination as public procurement act, Act 663(2003) Section 21(1) of the Condition of Contract provides that, if the Employer within the period of Honouring of Certificate which is the appendix to these conditions and after for seven clear days after written notice from the Contractor does not pay to the contractor the amount due on that certificate, or if the Employer interferes with or obstructs the issue of any such certificate, or if the whole or substantially the whole of the works (other than the work required under clause 13 of these conditions) is delayed for the period named in the appendix to these conditions by one or more of the clauses other than local combination of workmen, strike or lockout, which are named in clause 19 of these Conditions, the Contractor may without prejudice to any other rights or remedies, thereupon by notice by registered post to the Consultant determine the employment of the Contractor under this contract.

In general, failure to pay on time what is due under a contract will not normally be treated as a sufficient breach to justify the other party in determining the contract, but failure to pay on time what is owed is even less likely to be a repudiatory breach as concluded by Siti and Rashid (2010). Fugar, (2010) also concluded by stating that project is not only delayed (due to



delay payment), but the morale of workers plummet because of non-payment or irregular payment of wages.

## **2.5 Strategies currently used to deal with the problem of delayed payment**

Public procurement act, Act 663(2003) Clause 43(1) of the Conditions of Contract provides that Payments shall be adjusted for deductions for advance payments and retention. The Employer shall pay the Contractor the amounts certified by the Project Manager within 28 days of the date of each certificate. If the Employer makes a late payment, the Contractor shall be paid interest on the late payment in the next payment. Interest shall be calculated from the date by which the payment should have been made up to the date when the late payment is made at the prevailing rate of interest for commercial borrowing for each of the currencies in which payments are made.”

Clause 43(2) also states that if an amount certified is increased in a later certificate or as a result of an award by the Adjudicator or an Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated from the date upon which the increased amount would have been certified in the absence of dispute. Government of Ghana Condition of contract (1988) Clause 23(1) of the conditions of contract provided that at the Period of Interim Payment Certificate named in the Appendix to these Conditions, interim valuation shall be made and the consultant shall issue a certificate stating the amount due to the Contractor from the Employer and the Contractor shall be entitle to payment therefore within the period of Honouring Certificates named in the Appendix to these Conditions any payment that is beyond the period of Honouring Certificate to the Contractor can therefore be said to be delayed payment.

### **2.5.1 Contract Certificate Payment Procedures**

Federation Internationale Des Ingenieurs-Conseils (2007) clauses in the Condition of Contract spelt out the procedure required for payment of Contract certificate as stated below.

### **2.5.2 Monthly Statements**

The Contractor shall submit to the Engineer after the end of each month six copies, of a statement, showing the amounts to which the Contractor considers himself to be entitled up to the end of the month.

### **2.5.3 Monthly Payments**

The Engineer shall, within 28 days of receiving such statement, certify to the Employer the amount of payment to the Contractor which he considers due and payable in respect thereof..

### **2.5.4 Time for Payment**

The amount due to the Contractor under any interim certificate issued by the Engineer pursuant to this Clause, shall, subject to Clause 47, be paid by the Employer to the Contractor within 28 days after such interim certificate has been delivered to the Employer.

Include in the Contract a suspension of work clause with a short notice period, 14 instead of 28 days, saving another half month. This change would be made to Clauses 69.1 and 69.4 of the contract.

Include in the Contract the right to suspend work in the event of the Employer's failure to provide evidence of its ability to finance the balance of the work. The following language could be added to Clause 69.1

### **2.6 Challenges with the Strategies currently used to deal with the delayed payment**

Public procurement act, Act 466 (2003) section 25 of the Condition of Contract explained that at the period of Interim valuation stated at the appendix of the Condition of Contract, an Interim valuation shall be made and the Consultant shall issue Certificate stating the amount due to the contractor from the Employer and the contractor shall be entitled to payment therefore within the period of honouring certificate named in the appendix to these conditions.

The period for the honouring the certificate stated at the appendix of the said conditions however did not specify a specific period for the employer within which to honour the certificate when presented to him.

However, the Contractor unlike under the FIDIC condition of contract is required to specify the period of the delay (Period for which payment can be delayed) during tender or agree with the employer during contract signing. This agreed period however becomes binding no matter how long it is.

Meanwhile a careful examination of FIDIC condition of contract left no discretion to the employer to determine how long to delay payment as explained in section 2.4.0 above.

Again, section 43.3 of FIDIC plainly stated that, “For delay in payment beyond the periods specified in 43.2 above, interest at a pre-specified rate (12% p.a.) should be paid”.

Even though, clause 21 of the Government of Ghana Condition of contract (1988) indicated that if the Employer failed to honour payment certificate within the period specified in the Appendix of the Contract, and again after 7 days notice, the Contractor may terminate the Contract, there is no other clause in the Government of Ghana Condition of contract on punitive measures for the employer before the ultimate termination as in the case of FIDIC indicated in section 43.3.

## **2.7 Progress of work Valuation**

Longman Active study Dictionary (2000) defines Valuation as assessing how much something is worth. Cambridge Advance Learner’s Dictionary also defines Progress as something that is being done now, or advancement to more improved state. Progress Valuation can therefore be said to be assessment of work done so far with the view of obtaining the value of the work executed to date. This is usually done by measurement of work-done, and multiplying the total work by each rate as per the Priced Bills of Quantities



## **2.8 Innovative Strategies to address the effects of Payment delays**

“The importance of adequate and timely provision of financial resources in building construction project management cannot be over emphasized. Adequate finance is the hub around which everything else revolves” (Fugar, 2010). Therefore to prevent delay in payment, the employer must ensure there is an adequate financial resource available before the start of the project and if the funding is not available then there is no need to commence the project, but the project commencement should be delayed until funds become available as confirmed by (Ezekiel 2011).

Meanwhile, proof of availability of funding by the employer can only be guaranteed either by a Bank or Insurance Company before the start of the project as indicated by Ezekiel (2011).

The researcher is however yet to come across such a guarantee / bond to be named „funding guarantee“ or „funding bond“ as the case may be, to support evidence of funding for commencement of project. This would mean that, should the Employer fail at a point to pay the contractor for a certified work done, the surety firm or bank could be made to pay the contractor to continue and complete the work.

Construction Wedlink (2005) suggested that, in order to avoid lengthy days for which the certificate is prepared and the employer the time to honour certificate, reduce the certification and payment 28-day periods to 14 days apiece. This is commercially reasonable and will reduce the time delay for payment by at least one month. Introduction of prompt pay legislation for the construction industry as integral part of the governments“ strategy for solving the problem of payment delayed““ (Patricia Williams 2013)““.

### **2.8.1 Funding Bond/Guarantee**

Funding can be said to be providing financial resources to finance a need, program, or project as explained by Business Dictionary (2012). A Funding bond or guarantee in construction industry can be said to be a surety provided by a Client from a Bank, Insurance Company or a

Funding Institution toward a continuous payment for work done in respect of a contract awarded by him. This means that, before a contract is awarded, the Client shall make arrangement with the Surety Institution to pay the Contractor any certificate presented, in case he/she (employer) fails at a point in time to honour part or all payment due to the contractor.

Just as Contractors are required under various contracts to provide various Bonds and Guarantees such as advance payment Guarantee, Performance Guarantee, Retention Payment Guarantee etc, the Clients ability to provide continues payment Guarantee will enable all payment certificates raised to be paid and on time. This will provide life blood to the project and to see a smooth execution of the project as confirmed by (Siti and Rashid, 2010)

## **2.9 Conclusion**

In conclusion, it was revealed throughout the literature review that the major cause of delay in project execution in Ghana is due to delayed paying for work done (Fugar, 2010).

In order to eliminate delay in paying for work done due to lack of funds, it is recommended that Employers must be made to show evidence of funds availability before the commencement of the project. In practice, this phenomenon really happens and drastic measures must be taken to forestall in this direction in order to avoid delay in payment for work done and its subsequent effects on the project and the stakeholders.



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## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter describes the research design, the population, the sample and sampling procedure. It also describes the research instruments, the procedure for data collection and methods that are used for the data analysis.

#### **3.2 Research Design**

The researcher employed a descriptive survey method. According to Leedy (2002), descriptive survey involves the collection of data in order to answer questions concerning the current status of the problem. The major techniques or tools used in collecting data in this type of research are the questionnaire, interview and observation. Since this study intends to explore the innovative strategies to prevent effects of delayed payment in the construction industry, the descriptive survey study is found most appropriate.

#### **3.3 Target Population**

The target population of the study included contractors, consultants and experts in central region. The population of the study consists of contractors and consultants who have registered with the Office of the central region Contractors Association located at Winneba and experts from the various construction institutions such as Government Agencies such Head of Regional

Ghana Highway Authority, Architectural & Engineering Services Limited (AESL) and among others in the Central Region. The Central region has a total of 50 registered contractors with all financial class, 20 registered Consultants and 6 experts (The office of the Central region Contractors Association, 2014)

### **3.4 Sample size determination**

The sample consisted of 29 contractors who were seriously undertaking construction works and readily available, 8 consultants who were supervising the works being undertaken by these contractors and 5 experts located in the central region.

### **3.5 Sample and Sampling Procedure**

A sample size of 42 respondents was selected for the study. Then, a convenience sampling technique was used to select 29 respondents from contractors, 8 consultants and 5 Expert in Central region. Convenience sampling method was adopted because the respondents were selected based on their convenient accessibility and proximity to the researcher. More so, convenience sampling is fast and inexpensive in recruiting the contractors, clients and consultants for the study""(Creswell 2009)"".

### **3.6 Research Instrument**

The research instrument used for the study was a questionnaire comprised of open and closed questions. The questionnaire was developed from the literature review based on research questions proposed for the study and covered issues of exploration into innovative strategies to prevent the effect of delayed payment. Further, the questionnaire included open-ended and closed – ended items for contractors and the consultants, but unstructured questionnaire for experts.

### **3.7 Data Collection Procedure**

An introductory letter was collected from my departmental head, for Institute of graduate studies Kwame Nkrumah University of Science and Technology enabled me to have a good rapport with the contractors, Experts and consultants in the central Region. The purpose of the study was explained to the respondents and this paved the way for the researcher to retrieve most of the questionnaires from the respondent without difficulty. The instructions for completing the questionnaire explicitly appeared on the instrument; therefore no further instructions were needed when distributing the questionnaire. The researcher also availed himself to the respondents to answer questions that bordered on the study. It took the researcher three weeks to collect the data from the respondents.

### **3.9 Data Analysis**

The responses to the item on the questionnaires were analyzed using frequencies and percentages, with the use of Statistical Package for Social Science (SPSS) Version 18.0. To ensure consistency, the responses in the questionnaires were edited and coded. The responses for the open-ended questions were grouped based on common ideas that the respondents expressed. The results were presented using frequencies and percentages.

## CHAPTER FOUR

### DATA ANALYSIS, RESULTS AND DISCUSSIONS

#### 4.1 Introduction

This chapter of the research work presents the results that were obtained from the data collection and the analysis and discussion that have been done in respect of those results. It includes the background information about the type of construction work and client. And also the various effects of delayed payment, the strategies contractors currently used to address the problem of delay payment and suggested innovative strategies to mitigate the effects of delayed payment.

#### 4.2 Background Information

The background information gives some background as to the kind of projects: that is - category of projects and the process of obtaining the contract - around which the analyses are being conducted. This helps put the results and analyses conducted further into context.

#### 4.3 Demographic Data of Respondents

**Table 4.1** shows the distribution of clients for the last project undertaken by the respondents. From the table, majority of projects have government as the client, representing 89.2%. Private organizations and private individuals were clients for relatively fewer projects, with a 5.4% each.

**Table 4.1: The distribution category of clients**

CLIENT	CONTRACTORS		CONSULTANTS		TOTAL	
	Frequency	%	Frequency	%	Frequency	%
Government	25	86.2	8	100.0	33	89.2
Private Organization	2	6.9	-	-	2	5.4
Private Individual	2	6.9	-	-	2	5.4
Total	29	100.0	8	100.0	37	100%

Field survey, 2013



As seen from **table 4.2** the traditional system is still dominant in the procurement of works in Ghana, with 86.5%. The design and build system of procurement follows up with a percentage of 13.5%.

**Table 4.2: The type of procurement system was used.**

Procurement systems	CONTRACTORS		CONSULTANTS		TOTAL	
	Frequency	%	Frequency	%	Frequency	%
Traditional System	24	82.8	8	100.0	32	86.5
Design & Build	5	17.2	-	-	5	13.5
Construction Management	-	-	-	-	-	-
Total	29	100.0	8	100.0	37	100.0

Field survey, 2013

From **table 4.3**, contracts with duration between 12 to 18 months recorded the highest frequency of 14, representing 37.9%, those duration less than 6 months followed up with a percentage of 21.6% and frequency of 8, while those with a duration of 6 to 12 months came next with a frequency of 7 representing 18.9%. Projects with durations between 18 to 24 months and those with durations more than 24 months came next with percentages of 13.5% and 8.1% respectively.

**Table 4.3: The duration of the construction Contract period**

Contract Period	CONTRACTORS		CONSULTANTS		TOTAL	
	Frequency	%	Frequency	%	Frequency	%
Less than 6 months	4	13.8	4	50.0	8	21.6
6 to 12 months	7	24.1	-	-	7	18.9
12 to 18 months	10	34.5	4	50.0	14	37.9
18 to 24 months	5	17.2	-	-	5	13.5
More than 24 months	3	10.4	-	-	3	8.1
Total	29	100.0	8	100.0	37	100.0

Field survey, 2013



From **Table 4.4** majority of contractors took between 6 to 12 months to complete their projects, representing a percentage of 32.4%. Following up are projects that were completed between 12 to 18 months with a percentage of 29.8%. As seen from the table very few projects (2.7%) are completed under 6 months.

**Table 4.4: Duration it took the Contractor to finish the project**

Duration	CONTRACTORS		CONSULTANTS		TOTAL	
	Frequency	%	Frequency	%	Frequency	%
Less than 6 months	1	3.4	-	-	1	2.7
6 to 12 months	7	24.2	5	62.5	12	32.4
12 to 18 months	8	27.6	3	37.5	11	29.8
18 to 24 months	8	27.6	-	-	8	21.6
more than 24 months	5	17.2	-	-	5	13.5
Total	29	100.0	8	100.0	37	100.0

Field survey, 2013

The results from **Table 4.5** indicate that most clients delayed payment for a period between 1 to 3 months (32.5%). Also projects on which payments were delayed for less than 1 month and between 3 to 6 months recorded 21.6% each. Projects on which payments were delayed between 6 to 9 months accounted for 16.2% while situations in which payments were delayed for more than 12 months, the percentage recorded was 5.4%. Payment delays between 9 to 12 months accounted for 2.7%.

**Table 4.5: Duration of which the Client delayed any payment.**

Duration	CONTRACTORS		CONSULTANTS		TOTAL	
	Frequency	%	Frequency	%	Frequency	%
Less than 1 month	5	17.2	3	37.5	8	21.6
1 to 3 months	11	37.9	1	12.5	12	32.5
Between 3 and 6 months	5	17.2	3	37.5	8	21.6
Between 6 and 9 months	5	17.2	1	12.5	6	16.2
9 to 12 months	1	3.5	-	-	1	2.7
More than 12 months	2	7.0	-	-	2	5.4
<b>Total</b>	29	100.0	8	100.0	37	100.0

Field survey, 2013

From **Table 4.6** payment delays delayed 40.6% of projects by 1 to 3 months, 24.3% of projects were delayed by less than 1 month due to payment delays and another 24.3% were also delayed between 3 to 6 months due to payment delays. Projects delayed between 6 and 9 months accounted for 2.7%, same as those delayed between 9 to 12 months. Project delays of more than 12 months as a result of payment delays accounted for 5.4%, the conclusion to be drawn here being that, projects are mostly delayed by less than a month to 6 months as a result of payment delays.

**Table 4.6: Duration it took progress of work to delay which was as a result of the delay payment.**

Response	CONTRACTORS		CONSULTANTS		TOTAL	
	Frequency	%	Frequency	%	Frequency	%
Less than 1 month	7	24.1	2	25.0	9	24.3
1 to 3 month	13	44.8	2	25.0	15	40.6
Between 3 and 6 months	5	17.2	4	50.0	9	24.3
Between 6 and 9 months	1	3.5	-	-	1	2.7
Between 9 and 12 months	1	3.5	-	-	1	2.7
More than 12 months	2	6.9	-	-	2	5.4
Total	29	100.0	8	100.0	37	100.0

Field survey, 2013

#### **4.4 EFFECTS OF DELAYED PAYMENT ON GHANAIAIAN CONTRACTOR'S PERFORMANCE.**

From **Table 4.7a** *Breaks progression or continuity* was ranked as the leading effect of payment delays on contractors' performance, with a mean value of 4.38 and a standard deviation of 0.862. *Lock-up of capital* was ranked as the 2<sup>nd</sup> leading effect with a mean value of 4.21 and standard deviation of 0.861. Also, *Pressure on contractors from their creditors* ranked 3<sup>rd</sup> with a mean value of 4.21 and standard deviation of 0.902. *Suspension of work* and

*Project delay* ranked 4<sup>th</sup> and 5<sup>th</sup> respectively, with mean values of 4.14 each and standard deviation values of 0.833 and 0.915 respectively. Ranking 6<sup>th</sup> and 7<sup>th</sup> were *Inhibits proper planning* and *Reduced profitability* respectively with mean values of 4.10 and 4.07 and standard deviations of 0.772 and 1.067 respectively.

**Table 4.7a: Mean score ranking of Effects of delayed payment on Ghanaian Contractor's performance (Contractors' perspective).**

Effects	Mean	Standard Deviation	Rank
Breaks progression or continuity	4.38	0.862	1 <sup>st</sup>
Lock-up of capital	4.21	0.861	2 <sup>nd</sup>
Pressure on contractors from their creditors	4.21	0.902	3 <sup>rd</sup>
Suspension of work	4.14	0.833	4 <sup>th</sup>
Project delay	4.14	0.915	5 <sup>th</sup>
Inhibits proper planning	4.10	0.772	6 <sup>th</sup>
Reduced profitability	4.07	1.067	7 <sup>th</sup>
Payment of judgment debt by the client	3.90	0.817	8 <sup>th</sup>
Court action against the client	3.86	0.875	9 <sup>th</sup>
Increase in cost of capital	3.86	1.125	10 <sup>th</sup>
Workers suffer unduly	3.79	1.082	11 <sup>th</sup>
Company may go into liquidation	3.59	1.211	12 <sup>th</sup>
Determining the contract	3.21	0.876	13 <sup>th</sup>

Field survey, 2013

From **Table 4.7b** *Inhibits proper planning* was ranked as the leading effect of payment delays on contractors' performance, with a mean value of 4.38 and a standard deviation of 0.518. *Breaks progression or continuity* and *Pressure on contractors from their creditors* tied as the 2<sup>nd</sup> leading effects with a mean values of 4.25 and standard deviation values of 1.035 each. Also, *Project delay* ranked 4<sup>th</sup> with a mean value of 4.13 and standard deviation of 0.991. *Workers suffer unduly* came 5<sup>th</sup> with a mean value of 4.13 and standard deviation of 1.126. Ranking 6<sup>th</sup> and 7<sup>th</sup> were *Suspension of work* and *Company may go into liquidation*, with mean values of 4.13 and 4.00 and standard deviations of 1.356 and 1.414 respectively.

*Increase in cost of capital* was the least ranked effect, with a mean value of 0.926 and standard deviation of 0.926.

**Table 4.7b: Mean score ranking of Effects of delayed payment on Ghanaian Contractor's performance (Consultants' perspective)**

Effects	Mean	Standard Deviation	Rank
Inhibits proper planning	4.38	0.518	1 <sup>st</sup>
Breaks progression or continuity	4.25	1.035	2 <sup>nd</sup>
Pressure on contractors from their creditors	4.25	1.035	2 <sup>nd</sup>
Project delay	4.13	0.991	4 <sup>th</sup>
Workers suffer unduly	4.13	1.126	5 <sup>th</sup>
Suspension of work	4.13	1.356	6 <sup>th</sup>
Company may go into liquidation	4.00	1.414	7 <sup>th</sup>
Reduced profitability	3.88	0.641	8 <sup>th</sup>
Court action against the client	3.88	0.991	9 <sup>th</sup>
Determining the contract	3.88	1.126	10 <sup>th</sup>
Payment of judgment debt by the client	3.88	1.246	11 <sup>th</sup>
Lock-up of capital	3.63	1.302	12 <sup>th</sup>
Increase in cost of capital	3.50	0.926	13 <sup>th</sup>

Field survey, 2013

#### **4.5 CURRENT STRATEGIES USED BY GHANAIAN CONTRACTORS TO ADDRESS THE PROBLEM OF DELAYED PAYMENT**

As seen can be observed from **Table 4.8a** *Payment of interest on delayed payment* was ranked as the leading strategy adopted by Ghanaian contractors to address the problem of delayed payment, with a mean value of 4.17 and a standard deviation of 0.848. *Advanced mobilization payment before the project starts* was ranked as the 2<sup>nd</sup> leading strategy with a mean value of 3.83 and standard deviation of 0.889. Also, *Contractors using their money to complete the project before they are paid* ranked 3<sup>rd</sup> with a mean value of 3.79 and standard deviation of 1.048. Ranking 4<sup>th</sup> and 5<sup>th</sup> were *Contractors submitting their cash flow forecast to the client on time* and *Arbitration for payment of judgment debt*, with mean values of 3.76 each and standard deviations of 1.057 and 0.988 respectively. Also *Suspension of work* and



*Payment to the contractor within the 28 days after which the project manager submits payment certificate* were ranked as the 6<sup>th</sup> and 7<sup>th</sup> strategies respectively with mean values of 3.76 and 3.69 and standard deviation values of 0.830 and 0.712 respectively. *Abandoning the project till payment is made* ranked 8<sup>th</sup>, with a mean value of 3.59 and standard deviation of 0.907.

**Table 4.8a: Mean score ranking of Current Strategies Used by Ghanaian Contractors to address the problem of Delayed Payment (Contractors' perspective).**

Current Strategies	Mean	Standard Deviation	Rank
Payment of interest on delayed payment	4.17	0.848	1 <sup>st</sup>
Advanced mobilization payment before the project starts	3.83	0.889	2 <sup>nd</sup>
Contractors using their money to complete the project before they are paid	3.79	1.048	3 <sup>rd</sup>
Contractors submitting their cash flow forecast to the client on time	3.76	1.057	4 <sup>th</sup>
Arbitration for payment of judgment debt	3.76	0.988	5 <sup>th</sup>
Suspension of work	3.76	0.830	6 <sup>th</sup>
Payment to the contractor within the 28 days after which the project manager submits payment certificate	3.69	0.712	7 <sup>th</sup>
Abandoning the project till payment is made	3.59	0.907	8 <sup>th</sup>
Termination of contract	3.41	1.150	9 <sup>th</sup>
Payment of retention before defect liability period by using retention security cover	3.41	0.907	10 <sup>th</sup>
Adjudication	3.38	0.728	11 <sup>th</sup>
Contractors not willing to accept government contracts	3.34	1.111	12 <sup>th</sup>
Meeting the media to enable them retrieve their money from government	2.86	1.217	13 <sup>th</sup>

Field survey, 2013

From **Table 4.8b** *Suspension of work* was ranked as the leading strategy adopted by Ghanaian contractors to address the problem of delayed payment, with a mean value of 4.62 and a standard deviation of 0.518 *Adjudication* was ranked as the 2<sup>nd</sup> leading strategy with a mean value of 4.83 and standard deviation of 0.744. Also, *Payment to the contractor within the 28 days after which the project manager submits payment certificate* ranked 3<sup>rd</sup> with a mean value

of 4.25 and standard deviation of 0.463. Termination of contract and Abandoning the project till payment is made drew a tie at 4<sup>th</sup> with mean values of 4.25 and standard deviation values of 0.707. Also Payment of retention before defect liability period by using retention security cover and Contractors not willing to accept government contracts were ranked as the 6<sup>th</sup> and 7<sup>th</sup> strategies respectively with mean values of 4.13 each and standard deviation values of 0.641 and 1.126 respectively. Meeting the media to enable them retrieve their money from government was ranked as the least important strategy, with a mean value of 3.75 and standard deviation of 1.581.

**Table 4.8b: Mean score ranking of Current Strategies Used by Ghanaian Contractors to address the problem of Delayed Payment (Consultants' perspective)**

Current Strategies	Mean	Standard Deviation	Rank
Suspension of work	4.62	0.518	1 <sup>st</sup>
Adjudication	4.38	0.744	2 <sup>nd</sup>
Payment to the contractor within the 28 days after which the project manager submits payment certificate	4.25	0.463	3 <sup>rd</sup>
Termination of contract	4.25	0.707	4 <sup>th</sup>
Abandoning the project till payment is made	4.25	0.707	4 <sup>th</sup>
Payment of retention before defect liability period by using retention security cover	4.13	0.641	6 <sup>th</sup>
Contractors not willing to accept government contracts	4.13	1.126	7 <sup>th</sup>
Contractors submitting their cashflow forecast to the client on time	4.00	0.535	8 <sup>th</sup>
Arbitration for payment of judgement debt	4.00	1.069	9 <sup>th</sup>
Contractors using their money to complete the project before they are paid	4.00	1.414	10 <sup>th</sup>
Payment of interest on delayed payment	3.88	0.641	11 <sup>th</sup>
Advanced mobilization payment before the project starts	3.88	1.246	12 <sup>th</sup>
Meeting the media to enable them retrieve their money from government	3.75	1.581	13 <sup>th</sup>

Field survey, 2013

#### **4.6 INNOVATIVE STRATEGIES THAT CAN BE ADOPTED TO ELIMINATE DELAYED PAYMENT TO CONTRACTORS FOR GOVERNMENT CONTRACTS.**

From the results in **Table 4.9a** *Proper financial planning by the client before the inception of the project* came out as the leading innovative strategy to tackle the problem of delayed payment with an RII of 0.8786 and mean value of 4.3929. *Client accepting to pay according to contractor's cash flow forecast and on time* and *Funds meant for the project should be used for that project* drew a tie as the 2<sup>nd</sup> leading innovative strategies, with RII values of 0.8714 and mean values of 4.3571. *Advanced payment before the project starts* and *Both parties should identify risks that may lead to delay in payment and prepare a plan to address them before the start of the project* drew a tie at 4<sup>th</sup> with RII of 0.8643 and mean value of 4.3214, while *Adoption of proof of availability of funding by the employer can only be guaranteed either by a bank or insurance company before the start of the project* ranked 6<sup>th</sup> with RII of 0.8500 and mean value of 4.2500. Ranking 7<sup>th</sup> is *Payment to the contractor within the 14days after which the project manager submits payment certificate*, with RII of 0.8429 and mean value of 4.2143, followed by *Prompt disbursement of funds from the central government to the public institutions* with RII of 0.8286 and mean value of 4.1429. *Interest in the project should be a priority to the client* and *Introduction of prompt payment legislation for the construction industry* ranked 9<sup>th</sup> and 10<sup>th</sup> with RII values of 0.8071 and 0.7857 and mean values of 4.0357 and 3.9286 respectively.

**Table 4.9a: RII of innovative strategies (Contractors' perspective)**

REMEDIES	FREQUENCY OF RANKING					TOTAL	$\Sigma W$	MEAN	RII	RANK
	1	2	3	4	5					
Adoption of proof of availability of funding by the employer can only be guaranteed either by a bank or insurance company before the start of the project		1	4	10	13	28	119	4.2500	0.8500	6 <sup>th</sup>
Introduction of prompt payment legislation for the construction industry	1	1	4	15	7	28	110	3.9286	0.7857	10 <sup>th</sup>
Payment to the contractor within the 14days after which the project manager submits payment certificate	1		4	10	13	28	118	4.2143	0.8429	7 <sup>th</sup>
Proper financial planning by the client before the inception of the project			2	13	13	28	123	4.3929	0.8786	1 <sup>st</sup>
Advanced payment before the project starts		2	2	9	15	28	121	4.3214	0.8643	4 <sup>th</sup>
Client accepting to pay according to contractor's cash flow forecast and on time			3	12	13	28	122	4.3571	0.8714	2 <sup>nd</sup>
Funds meant for the project should be used for that project			5	8	15	28	122	4.3571	0.8714	2 <sup>nd</sup>
Prompt disbursement of funds from the central government to the public institutions		1	4	13	10	28	116	4.1429	0.8286	8 <sup>th</sup>



Interest in the project should be a priority to the client		2	2	17	7	28	113	4.0357	0.8071	9 <sup>th</sup>
Both parties should identify risks that may lead to delay in payment and prepare a plan to address them before the start of the project			3	13	12	28	121	4.3214	0.8643	4 <sup>th</sup>

Field survey, 2013

From the results in **Table 4.9b** *Proper financial planning by the client before the inception of the project* came out as the leading innovative strategy to tackle the problem of delayed payment with an RII of 0.9429 and mean value of 4.7143. *Client accepting to pay according to contractor's cash flow forecast and on time* and *Both parties should identify risks that may lead to delay in payment and prepare a plan to address them before the start of the project* drew a tie as the 2<sup>nd</sup> leading innovative strategies, with RII values of 0.9143 and mean values of 4.5714. *Adoption of proof of availability of funding by the employer can only be guaranteed either by a bank or insurance company before the start of the project* ranked 4<sup>th</sup> with RII of 0.8750 and mean value of 4.3750, while *Payment to the contractor within the 14 days after which the project manager submits payment certificate* and *Funds meant for the project should be used for that project* tied at 5<sup>th</sup> with RII of 0.8571 and mean value of 4.2857. Ranking 7<sup>th</sup> is *Introduction of prompt payment legislation for the construction industry*, with RII of 0.8500 and mean value of 4.2500, followed by *Advanced payment before the project starts*, which ranked 8<sup>th</sup> with RII of 0.8286 and mean value of 4.1429. *Interest in the project should be a priority to the client* and *Prompt disbursement of funds from the central government to the public institutions* ranked 9<sup>th</sup> and 10<sup>th</sup> with RII values of 0.8000 and 0.7429 and mean values of 4.000 and 3.7143 respectively.

**Table 4.9b: RII of innovative strategies (Consultants' perspective)**

REMEDIES	FREQUENCY OF RANKING					TOTAL	ΣW	MEAN	RII	RANK
	1	2	3	4	5					
Adoption of proof of availability of funding by the employer can only be guaranteed either by a bank or insurance company before the start of the project				5	3	8	35	4.3750	0.8750	4 <sup>th</sup>
Introduction of prompt payment legislation for the construction industry			1	4	3	8	34	4.2500	0.8500	7 <sup>th</sup>
Payment to the contractor within the 14days after which the project manager submits payment certificate			1	3	3	7	30	4.2857	0.8571	5 <sup>th</sup>
Proper financial planning by the client before the inception of the project				2	5	7	33	4.7143	0.9429	1 <sup>st</sup>
Advanced payment before the project starts		1		3	3	7	29	4.1429	0.8286	8 <sup>th</sup>
Client accepting to pay according to contractor's cash flow forecast and on time				3	4	7	32	4.5714	0.9143	2 <sup>nd</sup>
Funds meant for the project should be used for that project			1	3	3	7	30	4.2857	0.8571	5 <sup>th</sup>
Prompt disbursement of funds from the central government to the public institutions		1	2	2	2	7	26	3.7143	0.7429	10 <sup>th</sup>

Interest in the project should be a priority to the client		1	1	2	3	7	28	4.0000	0.8000	9 <sup>th</sup>
Both parties should identify risks that may lead to delay in payment and prepare a plan to address them before the start of the project			1	1	5	7	32	4.5714	0.9143	2 <sup>nd</sup>

Field survey, 2013

#### 4.7 DEMOGRAPHIC DATA OF RESPONDENTS - UNSTRUCTURED QUESTIONNAIRE

Table 4.10 shows the distribution of respondents by categorization. The clients for the construction industry comprised of government, private organization and private individuals. From the table 1.0, 80.0% of the respondents were government clients, 2.0% were private organizations while none were private individuals. It is clear from the table that the majority of the clients for construction were of the government.

**Table 4.10 Category of Client**

Client	Frequency	Percentage (%)
Government	4	80.0
Private Organization	1	20.0
Total	5	100.0

Field survey, 2013

Table 4.11 above indicates the effects of negative project delivery on contractors. The results show that 40.0% of the respondents stated contractors abandon work, however, 20.0% stated loss of profit, enormous pressure on contractors and bankruptcy on the part of the contractors respectively. It can be concluded from the above findings that abandoning of work is the major effect of negative project delivery on contractors.

**Table 4.11: Effects of negative project delivery on Contractors**

Response	Frequency	Percentage (%)
Loss of profit	1	20.0
Abandoning of work	2	40.0
Enormous pressure on contractors	1	20.0
Bankruptcy	1	20.0
Total	5	100.0

Field survey, 2013

**Table 4.12.** The researcher asked this question so as to understand the current strategies aimed at eliminating delay payment. The result, show that 40.0% of the respondents replied that payment of interest on projects and payment of advance mobilization before project starts are strategies that can help eliminate delay payment, however, 20.0% respondents stated that early release of funds can help eliminate delayed payment. It can be concluded from the above findings that payment of interest on projects and payment of advance mobilization before project start are the major strategies that can help eliminate delay payment.

**Table 4.12: Current strategies aimed at eliminating delay payment**

Response	Frequency	Percentage (%)
Payment of interest on projects	2	40.0
Payment of advance mobilization before project starts	2	40.0
Early release of funds	1	20.0
Total	5	100.0

Field survey, 2013

**Table 4.13.** At this stage researcher sought to inquire from respondents why current strategies aimed at eliminating delayed payment were not effective. The results show that 40.0% of the respondents replied that mobilization of money usually takes longer than expected while 40.0%



stated that it is as a result of negligence on the part of both clients and contractors, however, another 20% replied that it is as a result of delay in release of funds.

**Table 4.13: Reasons why current strategies aimed at eliminating delayed payment are not effective.**

Response	Frequency	Percentage (%)
Mobilization of money usually takes longer than expected	2	40.0
Negligence on the part of both clients and contractors	2	40.0
Delay in release of n funds	1	20.0
Total	5	100.0

Field survey, 2013

The table below indicates innovative strategies that can be adopted to eliminate delayed payment to contractors for government contracts. The results show 40.0% of the respondents stated that funds allocated towards projects should be used for their intended purpose while 20.0% stated contractors should engage sub-contractors on large projects to spread risk of financial burden, however, another 40% replied that there should be Public Private Partnership on income generating projects

**Table 4.14: Innovative strategies that can be adopted to eliminate delayed payment to contractors for government contracts.**

Response	Frequency	Percentage (%)
Funds allocated towards projects should be used for their intended purpose	2	40.0
Engage sub-contractors on large projects to spread risk of financial burden	1	20.0

Enter into PPP on income generating projects	2	40.0
Total	5	100.0

Field survey, 2013

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## CHAPTER FIVE

### CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Introduction

The findings obtained from the data analysis in the previous chapter are summarized in this chapter. Based on this findings conclusion are drawn. Further to the findings and conclusion, recommendations are made to specific stakeholders as to how to address some of the issues raised.

#### 5.2 Summary of Findings –: structured

The principal findings of the study are as follows:

It is known that Ghana as country and Africa as a continent have huge infrastructural deficits, meaning a lot infrastructure needs to be established by the governments of African countries to open up their countries for opportunities. The study found out that majority of the Clients that Contractors and Consultants work for in Ghana is the government. Government is the client for 89.2% of the projects sampled.

The study also found out that there could be many flexible and easy-going procurement systems and procedures that are employed by many private individuals and organizations around the country, which are still standard procedures. But it is obvious that when it comes to the Government of Ghana, the legal traditional procurement system that has been setup is the means by which contractors get their contracts. One of the reasons why this is so is that the

procurement system was setup by an Act of Parliament therefore going by something else amounts to violating the law.

The study also revealed that out of the 21.6% of projects that were estimated to be completed in less than 6 months only 2.7% were actually completed in less than 6 months.

The study also found that contractors and consultants had fairly similar views as far as the effects of delayed payment on contractors' performance is concerned. However, contractors and consultants had relatively divergent views with regards to the current and innovative strategies to address the problem of delayed payment.

### **5.3 Summary of Findings - : Unstructured**

From the research, it was evidenced that about 40% of the respondents agreed that abandonment of project was the major negative effect payment delay has on Contractors. The result also shown that, the current strategies contractors use to mitigate delay payment include both payment of advance mobilization and interest on payment delay. Finally, it was also clear that the best innovative strategy to mitigate delay payment include the use of funds for their intended purpose.

Finally, both structured and unstructured summary of finding of the respondents strongly agreed that fund meant for the project should be used for the project was the invocative strategy to address the problem of the effect of delay payment.

### **5.4 Recommendations**

From the findings of the research, it is recommended that:

- Proper financial planning should be done by clients before the inception of projects in order to avoid the ultimate result of project delay.

- Clients should accept to make payments according to contractors' cash flow forecast and on time.
- Funds meant allocated for designated projects should be expended on such projects only.
- Both clients and contractors should identify risks that may lead to delays in payment and prepare a plan to address them before the start of projects.

### **5.5 Recommendation for future research**

Finally, it was recommended that another research should be commissioned into the causes of the delays on payment in so as to address the causes as well.

### **5.6 Conclusion**

Delayed payment is a problem plaguing public procurement in Ghana and undermining the effective operations of construction firms in Ghana. The effects of payment delays on project stakeholders cannot be overemphasized and it is against this background that this study has been undertaken. It is therefore expedient that pragmatic steps are taken to address this problem. This study has outlined various innovative strategies to surmount this challenge in the construction industry.



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## APPENDICES

**INSTITUTE OF GRADUATE STUDIES KWAME NKRUMAH UNIVERSITY OF  
SCIENCE AND TECHNOLOGY KUMASI DEPARTMENT OF  
BUILDING TECHNOLOGY  
QUESTIONNAIRE FOR CONTRACTORS**

*The purpose of this questionnaire is to solicit for information to be able to analyze the topic below as part of the requirement for the award of a MSc. Construction Management*

**TOPIC: “STRATEGIES ADDRESSING PAYMENT DELAYS IN  
CONSTRUCTION INDUSTRY (GHANA)**

*The information obtained from you will be treated as confidential as possible*

ORGANIZATION (OPTIONAL).....

PROJECT (OPTIONAL).....

*With reference to your **LAST Completed Project**, please answer the following questions*

1. Indicate the category of the client for this project.

☐ Government

☐ Private Organisation

☐ Private Individual

2. What type of procurement system was used?

☐ Traditional system , (go to question 3)

☐ Design and build

☐ Constuction managemnt

3. What was the construction contract period?

(a.) Less than 6 months (b.) 6 to 12 months (c.) 12 to 18 months (d.) 18 to 24 months (e.) more than 24 months

4. How long did it take to finish the project? (a.) Less than 6 months (b.) 6 to 12 months (c.) 12 to 18 months (d.) 18 o 24 months (e.) more than 24 months

5. How long did the client delay any payment?

(a.) less than 1 month (b.) 1 to 3 months (c.) between 3 and 6 months (d.) between 6 and 9 months, (e.) 9 to 12 months (f.) more than 12 months

6. How long did the progress of work delay which was as a result of the delay payment.

(a.) less than 1 month (b.) 1 to 3 months (c.) between 3 and 6 months (d.) between 6 and 9 months (e.) 9 to 12 months (f.) more than 12 months

7. State the extent to which you agree with the following factors described as the EFFECTS OF DELAYED PAYMENT on Ghanaian contractor performance, where 1 means “strongly disagree”, 2 means “disagree”, 3 means “indifferent”, 4 means “agree”, 5 means “strongly agree”.

Factors	1	2	3	4	5	NA
increase in cost of capital						
reduced profitability						
project delay						
workers suffer unduly						
company may go into liquidation						
determining the contract						
Court action against the client						
Payment of judgment debt by the client						
lock up of capital						
pressure on contractors from their creditors						
suspension of work						
Breaks progression or continuity						
Inhibits proper planning						

8. State the extent to which you agree with the following factors described as the strategies currently used by Ghanaian contractors to address the problem of delayed payments, where 1 means “strongly disagree”, 2 means “disagree”, 3 means “indifferent”, 4 means “agree”, 5 means “strongly agree”.

Factors	1	2	3	4	5	NA
payment of interest on delayed payment						
Arbitration for payment of judgment debt						



payment to the contractor within the 28days after which the project manager submit payment certificate						
adjudication						
Contractors using their money to complete the project before they are paid						
Advanced mobilization payment before the project starts						
Payment of retention before defect liability period by using retention security cover.						
Abandoning the project till payment is made						
Termination of contract						
Suspension of work						
Meeting the media to enable them retrieve their money from government						
Contractors not willing to accepting government contracts						
Contractors submitting their cash flow forecast to the client on time.						

9. State the extent to which you agree with the following innovative strategies which can be used to address the problem of delayed payments to contractors, where 1 means “strongly disagree”, 2 means “disagree”, 3 means “indifferent”, 4 means “agree”, 5 means “strongly agree”.

<b>Factors</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>NA</b>
adoption of proof of availability of funding by the employer can only be guaranteed either by a Bank or Insurance Company before the start of the project						
Introduction of prompt payment legislation for the construction industry						
payment to the contractor within the 14days after which the project manager submit payment certificate						
Proper financial planning by the client before the inception of the project.						

Advanced payment before the project starts						
Client accepting to pay according to contractors' cash flow forecast and on time.						
Funds meant for the project should be used for that project.						
Prompt disbursement of fund from the central government to the public institutions.						
Interest in the project should be a priority to the client						
Both parties should identify risks that may lead to delay payment and prepare a plan to address them before the start of the project						

Thank you very much for taking time to assist with this questionnaire. Should you have any further enquiries about this study or its findings, you may reach me on Tel.0244409556 or by email [gawugah.daniel@yahoo.com](mailto:gawugah.daniel@yahoo.com).

Thank you very much.

**INSTITUTE GRADUATE STUDIES KWAME NKRUMAH UNIVERSITY OF  
SCIENCE AND TECHNOLOGY KUMASI DEPARTMENT OF BUILDING  
TECHNOLOGY**

**QUESTIONNAIRE FOR SPECIALISTS IN CONSTRUCTION INDUSTRY IN  
CENTRAL REGION OF GHANA**

*The purpose of this questionnaire is to solicit for information to be able to analyze the topic below as part of the requirement for the award of a MSc. Construction Management*

**TOPIC: "STRATEGIES ADDRESSING PAYMENT DELAYS IN  
CONSTRUCTION INDUSTRY (GHANA)"**

*The information obtained from you will be treated as confidential as possible*

ORGANIZATION (OPTIONAL).....

PROJECT (OPTIONAL).....

1.Indicate the category of the client for this project.

[ ] Government

[ ] Private Organisation

[ ] Private Individual

2.Delay payment for public sector works put many negative effects on the project delivery, suggest some of these effects on contractors.

1.....  
.....

2.....  
.....

3.....  
.....

3.What are the current strategies aimed at eliminating delay payment

1.....  
.....

2.....  
...

3.....  
.....

4. Why current strategies aimed at eliminating delay payment are not effective.

1.....  
.....

2.....  
.....

3.....  
.....

5.Please,surggest any innovative strategies that can be adopted to eliminate delayed payment to contractors for government contracts.

1.....  
.....

2.....  
.....

3.....  
.....

5.Any other comment.

.....  
.....

Thank you very much for taking time to assist with this questionnaire. Should you have any further enquiries about this study or its findings, you may reach me on Tel.0244409556 Or by email [gawugah.daniel@yahoo.com](mailto:gawugah.daniel@yahoo.com).

